

IN THE CLAIMS:

21. (currently amended) A capsule imaging system ~~having communications means and a power supply and imaging means, the capsule imaging system~~ comprising:

imaging means including a) an ultra-wideband sensor system for the imaging means at least a portion of a gastro-intestinal (GI) digestive tract in a subject, by emitting and receiving a plurality of electromagnetic signals at frequencies in the radio wave spectrum above one gigahertz;

a communications means for communication with at least one antenna outside of the GI digestive tract of the subject, including at least one radio transceiver;

a controlling circuit to control a plurality of communication operations by the radio transceiver, and to control at least one operation of the imaging means;

a capsule to enclose the imaging means, communications means, and the controlling circuit; and

a power supply inside the capsule to supply electrical power to the communication means and the imaging means.

22. (currently amended) A capsule imaging system ~~having communications means and a power supply and imaging means, the capsule imaging system~~ comprising:

imaging means, including a) an ultra-wideband sensor system to substantially image a gastro-intestinal (GI) digestive tract inside a subject, by emitting and receiving a plurality of electromagnetic signals at frequencies in the radio wave spectrum above three gigahertz;

a communications transceiver unit, including a radio transceiver;

a controlling circuit to control at least one reception and at least one transmission by the radio transceiver in communication with at least one antenna outside of the subject, and to control at least one operation of the imaging means;

a capsule to enclose the imaging means, the communications transceiver unit, and the controlling circuit; and

a power supply inside the capsule to supply electrical power to the communications transceiver unit and the imaging means.

23. (new) The capsule imaging system of claim 22, wherein the ultra-wideband sensor system can substantially image a GI digestive tract with at least one emitting antenna and at least one receiving antenna compatible with electromagnetic frequency signals having fundamental frequencies above three gigahertz.

24. (new) The capsule imaging system of claim 22, wherein the ultra-wideband sensor system can substantially image a GI digestive tract with one antenna capable of functioning as both an emitting antenna and as a receiving antenna, compatible with electromagnetic frequency signals having fundamental frequencies above three gigahertz.

25. (new) The capsule imaging system of claim 22, wherein the ultra-wideband sensor system images a GI digestive tract with a plurality of electromagnetic signals having fundamental frequencies substantially between 3.1 gigahertz and 10.6 gigahertz.

26. (new) The capsule imaging system of claim 22, wherein the communications transceiver unit operates in conjunction with a wearable vest-style garment for the subject having the GI digestive tract to wear as the capsule travels in the GI digestive tract, wherein the wearable vest-style garment includes at least one communication signal receiving antenna to receive a plurality of radio wave signals from the communications transceiver unit.